

WHAT IS CLAIMED IS:

1. A method for preventing or inhibiting progression of Alzheimer's Disease, comprising the step of administering a composition comprising a recombinant DNA molecule, containing a gene encoding a recombinant antibody molecule end-specific for the N-terminus or the C-terminus of an amyloid- β peptide, operably-linked to a promoter which is expressed in the central nervous system, in association with a means for gene delivery, to a patient in need thereof to prevent the accumulation of amyloid- β peptides and the aggregation of peptides which form amyloid deposits in the brain.
2. The method according to claim 1, wherein the composition is administered by injection intravenously, intra-arterially, intracranially, or intracephalically.
3. The method according to claim 1, wherein the amyloid- β peptide is selected from the group consisting of amyloid β -peptides having the amino acid sequence of residues 5-44 of SEQ ID NO:1, residues 5-46 of SEQ ID NO:1, residues 5-47 of SEQ ID NO:1, and mixtures thereof.
4. The method according to claim 1, wherein the recombinant antibody molecule is end-specific for the N-terminus of the amyloid- β peptide.
5. The method according to claim 1, wherein the recombinant antibody molecule is end-specific for the C-terminus of the amyloid- β peptide.
6. The method according to claim 1, wherein the promoter operably-linked to the gene encoding a recombinant antibody molecule is a β APP promoter.
7. The method according to claim 1, wherein the means for gene delivery in association with the recombinant DNA molecule comprises a viral vector.
8. The method according to claim 7, wherein the viral vector is adeno-associated vector (AAV).
9. The method according to claim 7, wherein the means for gene delivery further comprises cationic lipids or cationic liposomes.

10. The method according to claim 1, wherein the means for gene delivery in association with the recombinant DNA molecule comprises cationic lipids or cationic liposomes.

11. The method according to claim 1, wherein the means for gene delivery in association with the recombinant DNA molecule comprises a ligand capable of binding to a cell surface receptor.

12. The method according to claim 11, wherein the ligand is biotin.

13. The method according to claim 1, wherein the recombinant antibody molecule is a single chain ^{antibody} variable region fragment.

Sub B1 14. Monoclonal antibody end-specific for the N-terminus of an amyloid β -peptide.

15. A recombinant DNA molecule, comprising a gene encoding a recombinant antibody molecule end-specific for the N-terminus or the C-terminus of an amyloid- β peptide and a promoter operably linked to said gene, wherein said promoter is capable of expressing said recombinant antibody molecules in brain cells.

16. The recombinant DNA molecule according to claim 15, wherein said promoter is a β APP promoter.

17. A vector comprising the recombinant DNA molecule of claim 15.

18. A host cell transformed with the vector of claim 17.

19. A pharmaceutical composition for preventing or inhibiting progression of Alzheimer's Disease, comprising the recombinant DNA molecule of claim 15 in association with a means for gene delivery, and a pharmaceutically acceptable excipient.

20. The pharmaceutical composition according to claim 19, wherein the means for gene delivery is selected from the group consisting of viral vectors, cationic lipids, cationic liposomes, ligands capable of binding to a cell surface receptor, and combinations thereof.

21. The pharmaceutical composition according to claim 19, wherein said gene encodes a recombinant antibody

molecule end-specific for the N-terminus of an amyloid- β peptide.

22. The pharmaceutical composition according to claim 19, wherein said gene encodes a recombinant antibody molecule end-specific for the C-terminus of an amyloid- β peptide.

ALL
A
x B3

662101" 02820460